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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/618,165	07/17/2000	Jae Beom Choi	8733.039.20	8415
30827 7590 01/30/2007 MCKENNA LONG & ALDRIDGE LLP 1900 K STREET, NW WASHINGTON, DC 20006			EXAMINER BOUTSIKARIS, LEONIDAS	
			ART UNIT 2872	PAPER NUMBER
SHORTENED STATUTORY PERIOD OF RESPONSE		MAIL DATE	DELIVERY MODE	
3 MONTHS		01/30/2007	PAPER	

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

# Office Action Summary

Application No.

09/618,165

Applicant(s)

CHOI ET AL.

Examiner

Leo Boutsikaris

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 13 November 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 3-5, 7-11, 13-15, 17-23 and 27-37 is/are pending in the application.
- 4a) Of the above claim(s) 27-37 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 3-5, 7-11, 13-15 and 17-23 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 17 July 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☒ Certified copies of the priority documents have been received in Application No. 09/084,583.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 3-5, 7-11, 13-15, 17-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kubota (US 3,912,920) in view of Melles-Griot Optics Catalog (Optics Guide 5).

Regarding claim 8, Kubota discloses a polarizer structure (Fig. 2) comprising a plurality of sections such as 31 and 32, each section comprising a plurality of transparent substrates 3a made of glass and producing polarized light (Fig. 1, lines 18-29, col. 2, lines 42-51, col. 3). However, Kubota does not disclose explicitly that the transparent substrates 3a causing the polarization of the incident light are made from quartz. Kubota does teach that polarization occurs when light strikes obliquely the plane of a transparent substance such as a glass plate (lines 42-58, col. 1). It would have been obvious to one of ordinary skill in the art at the time the invention was made to use quartz plates instead glass plates in the polarizer structure of Kubota, since quartz is similar to glass and it is less susceptible to external deleterious factors. Regarding the limitation that the polarizer structure comprises a holder supporting the plurality of the polarizer sections, it is noted that it is inherent that the device of Kubota shown in Fig. 2 includes a holder to support the polarizer sheet.

Furthermore, it is inherent that the polarizer holder includes a light absorptive material, since any material, which is not a perfect reflector absorbs incident light. However, Kubota does not specify the amount of optical absorptivity exhibited by the polarizer holder. The Melles Griot Optics product catalog (Optics Guide 5) shows polarizer elements (e.g., sheet polarizers), wherein it is disclosed that said polarizers are mounted on holders comprising black metal ring (see p. 14-23). In the special section dedicated to mounting systems, the catalog shows a lens holder made from brass, wherein it is taught that the body is black chrome coated to reduce scatter and stray reflections (see p. 23-5). For illustration purposes only, several other product publications are recited, all of them disclosing polarizer holders made of black anodized metal (see OptoSigma, Standa, and EKSPLA catalogs). It would have been obvious to one of ordinary skill in the art at the time the invention was made to make the material of the polarizer holder of Kubota having a high absorptivity (such as highly absorbing black surfaced material), as taught by the Melles-Griot catalog, for avoiding undesired scattering of light (as taught by Melles-Griot) into the (narrow-angle forward, p-polarized) light component at the output of the device. Regarding the claimed amount of absorptivity, it would have been obvious to one of ordinary skill in the art at the time the invention was made to make the material of the polarizer holder of Kubota having an absorptivity almost equal to 100%, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980). The use of highly absorptive optical element holders is well known in the art for preventing deleterious light scattering and reflection effects, which may adversely affect the optical beam quality.

Regarding claims 3, 5, 13, 15, the glass polarizer sections are rectangular.

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Regarding claims 7, 17, each section 31 comprises a plurality of glass substrates 3a (Fig. 1).

Regarding claims 9-10, 20-21, the plurality of the glass substrate parts is placed at a non-zero angle equal to the Brewster's angle relative to the normal line to the surface of the polarizer (lines 43-49, col. 1).

Regarding claims 11, 22, the device of Kubota further includes a light source 1 for generating light, and means 2 for directing light onto the polarizer sheet (Fig. 2).

Regarding claims 4, 14, Kubota does not specify that the sections 31 or 32 are triangular in shape. It would have been obvious to one of ordinary skill in the art at the time the invention was made to make the polarizer section triangular, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980). Here, the result effective variable is the shape of the polarizer. A mesh of triangular shaped sections is more economical to make since it has fewer connecting edges.

Regarding claim 18, the means 2 for directing the light incident on the polarizer collimates the light (see Figs. 1-2, and lines 47-49, col. 2).

Regarding claim 19, the stack of glass substrates 31 partially polarizes the incident light (lines 51-57, col. 2).

Regarding claim 23, the degree of partial polarization depends on the number of glass substrates 3a stacked on top of one another (lines 26-34, col. 3).

***Response to Applicant's Arguments***

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Applicant's arguments with respect to claims 8, 11, 22 have been considered but are moot in view of the new ground(s) of rejection.

### ***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dr. Leo Boutsikaris whose telephone number is 571-272-2308. The examiner can normally be reached on M-F, 10-6.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephone Allen can be reached on 571-272-2434. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Leo Boutsikaris, Ph.D., Esq.  
Primary Patent Examiner, AU 2872  
January 25, 2007



**LEONIDAS BOUTSIKARIS**  
**PRIMARY EXAMINER**